IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A computerized method for determining an allocation of software and data components in a distributed system, the method comprising:

modeling a target system, the target system having a plurality of computing resources;

determining a set of couplings in the target system, said couplings including at least on coupling from each of control couplings, data couplings and peripheral couplings;

prepartitioning the set of couplings to produce data and code partitions;

preallocating tasks in each coupling in the set of couplings to one of the plurality of computing resources;

interleaving the preallocated data and code partitions;

defining a set of components according to the interleaved and preallocated partitions, each of the components having a data and a code segment; determining a modularity of the set of components; and determining a coupling strength for each coupling in the set of couplings; and

allocating the defined set of components to computer hardware resources according to the modularity and the coupling strength.

2. (Original)   The computerized method of claim 1, further comprising:

determining a computer hardware resource based on the determination of the modularity; and

interleaving the data and the code segment of each of the components.

3. (Original)   The computerized method of claim 1, further comprising:

assigning each component of the set of components to a computer hardware resource based on the determination of the modularity; and

interleaving the data and the code segment of each of the components.

4. (Cancelled)

5. (Previously Presented)   The computerized method of claim 1, wherein the coupling comprises a control coupling and the coupling strength of the control coupling is determined using a task latency for a task in the control coupling, a timing strength, and a frequency strength.

6. (Previously Presented)   The computerized method of claim 1, wherein the coupling comprises a data coupling and the coupling strength of the data coupling is determined using a latency value, a timing strength, a frequency strength, and a bandwidth strength.

7. (Previously Presented)   The computerized method of claim 1, wherein the coupling comprises a peripheral coupling and the coupling strength of the peripheral coupling is determined using a latency value, a timing strength, and a frequency strength.

8. (Previously Presented)   The computerized method of claim 1, further comprising:
> calculating bottleneck ratios; and
> ordering evaluations of couplings based on bottleneck ratios.

9. (Currently Amended)   A computer-readable medium having computer executable instructions for performing a method for determining an allocation of software and data components in a distributed system, the method comprising:
> modeling a target system, the target system having a plurality of computing resources;
> determining a set of couplings in the target system, said couplings including at least one coupling from each of control couplings, data couplings and peripheral couplings;
> prepartitioning the set of couplings to produce data and code partitions;
> preallocating tasks in each coupling in the set of couplings to one of the plurality of computing resources;
> interleaving the preallocated data and code partitions;

defining a set of components according to the interleaved and preallocated data

and control partitions, each of the components having a data and a code segment;

determining a modularity of the set of components; and

determining a coupling strength for each coupling in the set of couplings.

10. (Previously Presented)   The computer-readable medium of claim 9, wherein the method

further comprises:

determining a computer hardware resource based on the determination of the

modularity; and

interleaving the data and the code segment of each of the components.

11. (Previously Presented)   The computer-readable medium of claim 9, wherein the method

further comprises:

assigning each component of the set of components to a computer

hardware resource based on the determination of the modularity; and

interleaving the data and the code segment of each of the components.

12. (Cancelled)

13. (Previously Presented)   The computer-readable medium of claim 9, wherein the coupling

comprises a control coupling and the coupling strength of the control coupling is determined

using a task latency for a task in the control coupling, a timing strength, and a frequency

strength.

14. (Currently Amended)   The computer-readable medium of claim 9, wherein the coupling

comprises a data coupling and the coupling strength of the data coupling is determined using a

~~value selected from the group comprising:~~ a latency value, a timing strength, a frequency

strength, and a bandwidth strength.

15. (Currently Amended)   The computer-readable medium of claim [[12]] 9, wherein the coupling comprises a peripheral coupling and the coupling strength of the peripheral is determined using a latency value, a timing strength, and a frequency strength.

16. (Previously Presented)   The computer-readable medium of claim 9, wherein the method further comprises:

        calculating bottleneck ratios; and

        ordering evaluations of couplings based on bottleneck ratios.